

Appln No. 09/804,877
Reply to Office Action dated June 2, 2004

SAR 14211

REMARKS

This is intended as a full and complete response to the Office Action dated June 2, 2004 having a shortened statutory period for response set to expire on September 2, 2004. In the Office Action, the Examiner noted that claims 1 to 25 are pending in the application, and that claims 1-5, 10, 13, 21-23 and 25 are rejected. The Examiner objected to claims 6-9, 14-20 and 24. Claims 11 and 12 have been allowed. In view of the above amendments and the following discussion, Applicants submit that none of the claims now pending in the application are indefinite under the provisions of 35 USC §112 or obvious under the provisions of 35 USC § 103. Thus Applicants believe that all of these claims are now in condition for allowance.

I. OBJECTIONS

A. Specification

The Examiner objected to the specification in the paragraph beginning on Page 1, line 30 as containing grammatical errors. The paragraph has been amended to correct the minor grammatical problems. As such, Applicants respectfully request that the objection be withdrawn.

B. Claim 11

The Examiner has objected to claim 11 due to an informality. Claim 11 has been amended to correct a matter of form. As such, Applicants respectfully request that the objections be withdrawn.

II. REJECTION OF CLAIMS UNDER 35 USC §112

The Examiner rejected claim 21 as lacking antecedent basis for the term "the number of redundancy bits". Claim 21 has been amended to address the antecedent basis issue. As such, Applicants request that the rejection be withdrawn.

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III. REJECTION OF CLAIMS UNDER 35 USC §103

A. Rejection of claims 1-5 and 10

The Examiner rejected claims 1-5 and 10 as being obvious over Eroz et al., (United States patent 6,430,722 B1, issued August 6, 2002, hereinafter called "Eroz") in view of Rowitch et al ("On performance of hybrid FEC/ARQ systems using rate compatible punctured Turbo (RCPT) codes", IEEE, June 2000) (Rowitch). The rejection is respectfully traversed.

Eroz discloses a method of providing forward error correction for data services using a parallel concatenated convolutional code which is a Turbo Code comprising a plurality of constituent encoders wherein a plurality of data block sizes are used in conjunction with said Turbo Code.

The Examiner concedes that Eroz fails to disclose that the channel coded signal has for each data block a number of bits equal to a number of bits in a particular data block plus an initial number of error correcting bits. Rowitch is cited by the Examiner in order to cure the Examiner's concession with respect to Eroz.

Applicants assert that Rowitch does not qualify as prior art. Applicants filed Provisional Application No. 60/206,133, on May 22, 2000. The present application claims priority from this provisional application. Since the provisional application was filed before the publication date of the Rowitch reference (June 2000), Rowitch may not properly be used as prior art. As such, Eroz in view of Rowitch fails to render Applicants' claim 1 obvious. Claims 2-5 and 10 are patentable at least by virtue of their dependence from claim 1.

B. Rejection of claims 13, 21-23, and 25

The Examiner rejected claims 13, 21-23, and 25 as being obvious over Kodama et al., (United States patent 5,416,787, issued May 16, 1995, hereinafter called "Kodama") in view of McCallister et al (United States patent 5,878,085, issued March 2, 1999, hereinafter called "McCallister"). The rejection is respectfully traversed.

Kodama discloses that a reduction of the redundancy due to the use of the convolutional codes as the error correction codes is achieved by a convolutional

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encoding at an identical encoding rate and a puncture process using different puncture rates for different classes of the input signals classified by the error sensitivity of each bit. (see Kodama, Abstract)

The Examiner's attention is directed to the fact that Kodama fails to disclose "adjusting, in response to a channel quality measure of an information channel, the number of error correcting bits to generate said puncture coded signal from said channel code signal", as recited in claim 13. Specifically Applicants' claim 13 positively recites:

13. Apparatus for producing a puncture coded signal from a data signal where the data signal comprises a sequence of data blocks, said apparatus comprising:
an adaptive controller for adjusting in response to a channel quality measure for an information channel, a number of error correcting bits to transmit in said puncture coded signal; and
a puncture encoder for generating, said puncture coded signal from the data signal, where said puncture coded signal has, for each data block in said sequence of data blocks, a number of bits equal to a number of bits in a particular data block plus an adjusted number of error correcting bits. (emphasis added)

The Examiner conceded that Kodama does not specifically teach the puncturing is adjusted due to channel quality measure. The Applicants also submit that Kodama fails to disclose adjusting the number of error correcting bits in response to a channel quality measure. McCallister is cited by the Examiner in order to cure the Examiner's concession with respect to Kodama.

McCallister teaches that puncturing refers to the occasional discarding of a symbol from a symbol stream. In McCallister, symbols may be discarded when a communication channel provides a sufficiently high signal-to-noise ratio that the coding gain provided by the encoder is greater than required.

McCallister only discloses the discarding of symbols when there is a high signal-to-noise ration. McCallister, however, fails to disclose adjusting a number of error correcting bits in response to a channel quality measure. As such, Kodama in view of McCallister fails to render Applicants' claim 13 obvious. Claims 21-23 and 25 are patentable at least by virtue of their dependence from claim 13.

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IV. Allowable Subject Matter

Applicants thank the Examiner for allowing claims 11 and 12. Applicants also thank the Examiner for indicating allowable subject matter in claims 6-9, 14-20, and 24.

Claims 6-9, 14-20, and 24 were objected to as being allowable but depending from a rejected base claim. Applicants thank the Examiner for indicating the conditional allowability of such subject matter, but have hereinabove provided arguments refuting the rejections of the independent claim. Thus, no changes to the dependent claims are made at this time.

CONCLUSION

Thus, Applicants submit that none of the claims presently in the application are obvious under the provisions of 35 U.S.C. §103. Consequently, Applicants believe that all claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the maintenance of the present adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

9/2/04



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